



# State of Utah

DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

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June 19, 1992

TO: Minerals File

FROM: Tony Gallegos, Reclamation Engineer *ag*

RE: Site Inspection, Redmond Clay & Salt Company, RCS Salt Mine,  
M/039/002, Sanpete County, Utah

Date of Inspection: June 18, 1992  
Time of Inspection: 1015 -1400  
Conditions: Sunny, clear skies  
Participants: Milo Bosshardt, Jay Bosshardt, Ron Bosshardt?, Redmond Clay  
& Salt Co.; Wayne Hedberg, Holland Shepherd, Tony Gallegos,  
DOGM

The purpose of this inspection was to collect supplemental information regarding the mine operations to satisfy the requirements for a Large Mining Operation Notice of Intent.

Upon our arrival at the new office-warehouse building we had a meeting with Milo, Jay and Ron. The main focus of the meeting was the Division's reclamation surety estimate for Redmond in the sum of \$228,100, dated 4/17/91. Milo informed us that although Redmond had posted the surety required by the Division, he felt the amount was excessive and not acceptable. The meeting consisted of discussing each of the first four pages of the estimate. Each line item was discussed and either accepted by the Division and Redmond or left open as an area of the mine site which would need to be visited in order to resolve any differences.

The Division's estimate was based on the mine site being divided into three main portions, the South Mine Property, the North Mine Property, and the Clay Mine Property. The South Mine Property consists of portions of a 36 acre parcel which contains the salt mill and salt mine. The North Mine Property consists of portions of the 60 acre parcel which contains three clay mining sites near the old Poulson salt mine. The Clay Mine Property consists of all the other clay mining sites and roads between the North and South Mine property and the clay mining sites west of the North property. These divisions are illustrated best by the map received

Page 2  
Site Inspection  
Redmond Clay & Salt Co.  
M/039/002  
June 19, 1992

July 25, 1990, titled "Redmond Development Company, All Mine Sites", with a scale of one inch equals 378 feet.

After the meeting, a brief lunch break was held followed by all parties visiting various areas of the mine site. The first area visited was a rise overlooking a majority of the South Mine Property. Key areas discussed from this vantage point were the salt pit highwalls, the new waste dump, the primary crusher, the mill and bulk storage building, the old compressor house, the road network in this area, and the old waste dump areas. Original overburden from the pit has been placed around the perimeter. This material could be utilized for backfilling the pit and reducing the highwalls. It was felt that a majority of the highwalls of the salt pit could be regraded/reduced with a dozer. Reclamation of the new waste dump area was discussed and it was decided that regrading alone would probably be adequate for this area, since the soil material is high in salts (this decision will be conditioned upon the revegetation test plot results). The primary crusher sits on a hill and it was decided that this entire structure would need to be demolished upon final reclamation. Reclamation of the mill/bulk storage building was discussed and it was felt that partial demolition/renovation was appropriate if this building was to have a post-mine land use. The old compressor house is an old wooden structure near the salt pit. It was felt that this structure could be easily demolished by dozing it into the pit before grading the highwalls. The old waste dumps were pre-law disturbances and Redmond will not be required to reclaim those areas unless they have re-impacted them.

The next area visited was the new earth removal area in the South Mine Property. The new office-warehouse building, truck scales, metal scrap pile and dry pond were viewed on route to the new earth removal area. After viewing the earth removal area, it was decided that the appropriate reclamation treatments for this area would consist of regrading and reseeding. It was the operator's opinion that the truck scale would definitely have a continued post-mining land use; therefore it should not need to be reclaimed. Reclamation of the scrap area was discussed and Redmond felt that it would be in their best interest to remove the scrap metal and reclaim this area during operations. They could haul all the scrap from the area in the South Mine Property to the scrap yard in the clay mining property (not shown on the map) and rip the old scrap area. The dry pond was viewed and it was felt that regrading/backfilling would be adequate to reclaim this area.

We next traveled past the gravel pit and clay pad to view the clay pits on the western border of the property. The gravel pit is not regulated by the Division. These mine features are listed under the heading of Clay Mine Property in the surety estimate. The clay pad is a large flat area where the clay is placed to dry after excavation. The clay is also disced during this drying process. The pad is in an area

Page 3  
Site Inspection  
Redmond Clay & Salt Co.  
M/039/002  
June 19, 1992

of limited vegetation due to the poor condition of the soil. It was agreed that regrading and ripping would probably be adequate to reclaim this area (unless revegetation test plot results prove otherwise). The clay pit labeled P2 on the Redmond Development map is not actually a pit, but a white hilltop being mined from the top down. There are no highwalls at P2. Clay pit P3 does contain a highwall on the southern end, approximately 15-20 feet high. The P3 highwall can be reduced using a dozer rather than blasting. Clay pit P4 is a trench type of excavation. The P4 highwall extends for the majority of the pit perimeter, with the exception being the northern end only. This highwall has a maximum height of approximately 25-30 feet. The Division felt that the areas of pits P3 and P4 contained a better soil medium and would, therefore, require the full revegetation treatment of mulching, discing and seeding upon final reclamation.

The next area visited was the main clay pit in the North Mining Property. This pit is labeled N1 on the North Mining Property map. The highwall at N1 extends along the eastern border of the pit. Maximum highwall height is estimated to be 60 feet, although this height does not extend for the entire length of the pit. The other two clay pit locations in the North Mine Property (N2 and N3) were not visited, but these sites were described by Redmond as not having any highwalls.

Other areas of interest viewed, while driving back to the office, were the waste dump, the clay pit labeled P1 on the Redmond Development Company map, and the brine pond. The waste dump is essentially a land fill for construction waste produced at the mine. Pit P1 produces a high grade white clay marketed for pharmaceutical purposes by Redmond. This pit does contain a highwall of approximately 15-20 feet in height, along the western border of the pit. This highwall can be reduced using a dozer instead of blasting. The brine pond was viewed and the Division does not feel this feature to have a post-mine land use. Reclamation of the brine pond would consist of backfilling/regrading.

The inspection concluded with the understanding that the Division would write an inspection memo and draft a more detailed mining and reclamation plan and reclamation estimate. The idea of a revegetation test plot was discussed and the Division agreed to provide Redmond with some guidelines. Copies of all these documents would be provided to Redmond for comment and response by a certain date (tentatively August, 1992).

jb  
cc: Redmond Clay & Salt Co.  
Lowell Braxton, DOGM  
Minerals Staff (route)

## Supplemental Information

### Redmond Salt and Clay M/039/002

#### *Test Plots and Seed Mix*

This information is provided to help Redmond develop several revegetation test plots on the property. The test plots will be used on differing areas of the mine site, to determine the best adaptable plant species for revegetating portions of the mine site. The site is extremely harsh because of 3 main factors: 1) high soil salt content; 2) high clay content; and 3) limited rainfall.

The following plant species should be used on the test plots:

Prepared by DOGM June 23, 1992

<u>Common Name</u>	<u>Species Name</u>	<u>*Rate lbs/ac (PLS)</u>
1. Indian ricegrass	Oryzopsis hymenoides	2
2. Needle and Thread	Stipa comata	2
3. Squirrel tail	Sitanion hystrix	2
4. Crested wheatgrass	Agropyron sibiricum	2
5. Galleta grass	Hilaria jamesii	2
6. Gooseberry globemallow	Sphaeralcea coccinea	3
7. Prostrate kochia	Kochia prostrata	2
8. Fourwing saltbush	Atriplex canescens	3
9. Winterfat	Eurotia lanata	3
10. Rabbitbrush	Chrysothamnus nauseosus	2
11. Shadscale	Atriplex confertifolia	2
Total		25 lbs/ac

#### **\* Broadcast rate PLS**

Test plots should be at least 30 x 40 feet and should be placed in areas designated for reclamation. The test plot soil medium should approximate the anticipated soil conditions at the end of mining to the extent possible. Areas should be regraded, retopsoiled, scarified then reseeded. If topsoil is unavailable, areas should be regraded or ripped, scarified then reseeded. Seeding should take place in the late fall. Please fence and post (establish signs indicating revegetation test area) the test plots in a fashion which will protect them from future mining-related disturbance or impact from local livestock and/or wildlife..

Page 2

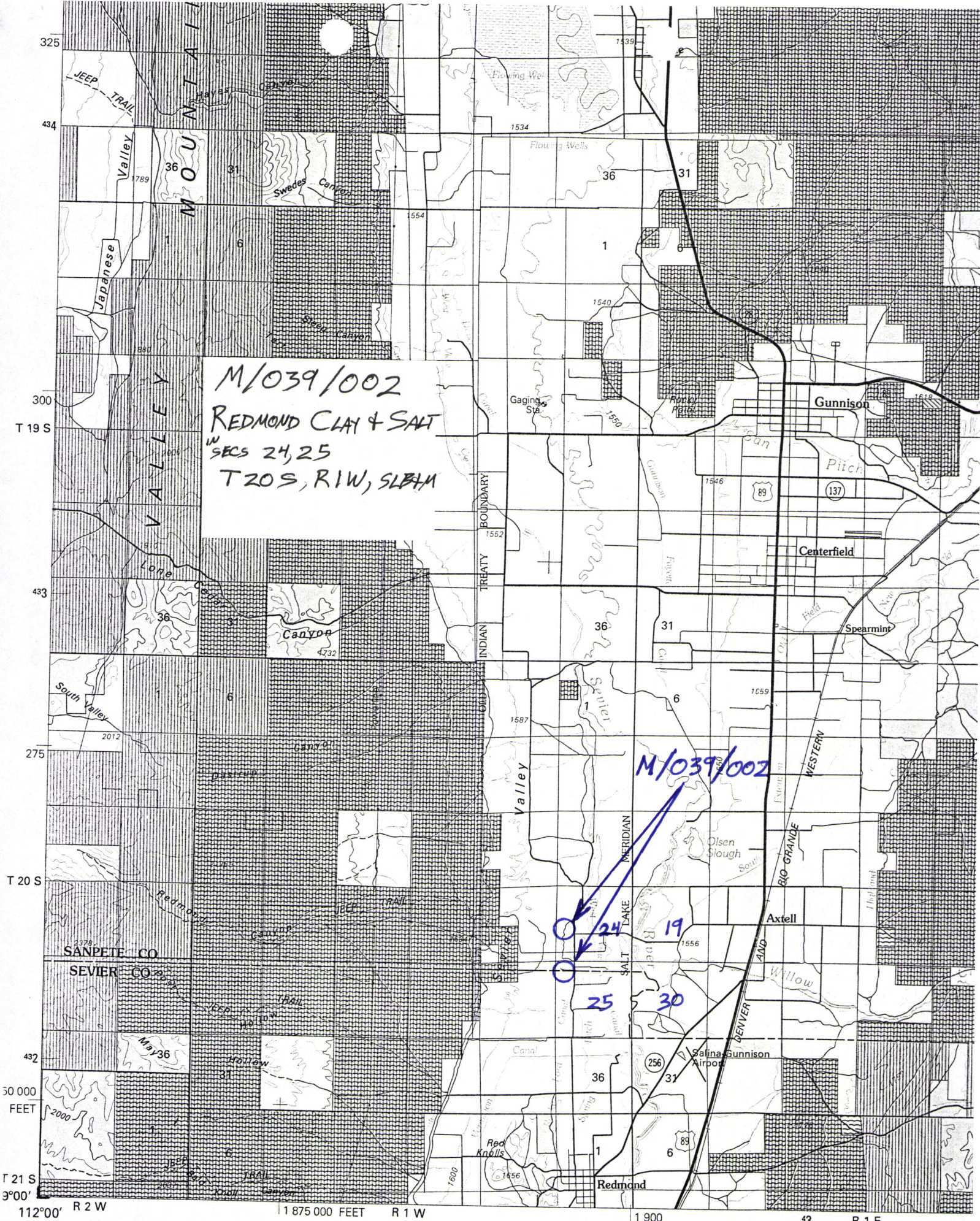
Redmond Salt and Clay

Test Plots & Seed Mix

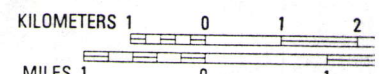
M/039/002

Choose areas for the plots at the earth removal areas on the South Mine property and clay pits associated with the Clay Mine property and North Mine property. Redmond may also want to initiate a test plot on the area situated above the large salt pit on the South Mine property. Soils here are mostly the red clays which are extremely poor, but may support plant growth. The Division is willing to assist Redmond in selecting the test plot locations and provide additional guidance in setting up the test plots as required.

M039002.1



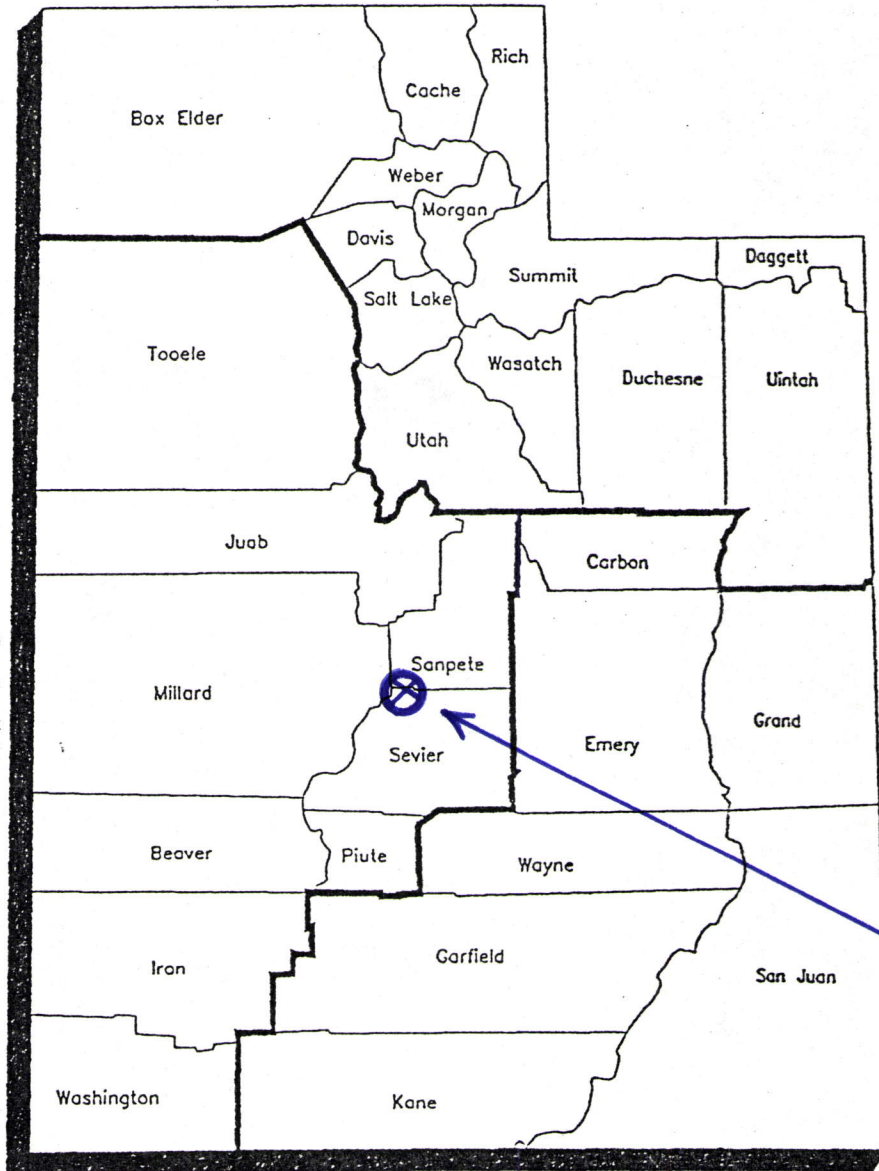
MANTI 1:100,000 SCALE



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